

Work Order ID 124642 - 4

\*124642\*

Page 1

Thursday, September 18, 2014 11:55:49 AM

Item ID: D4857-M

Accept

\*N900040100\*

Setup Start

\*NS1\*

Revision ID:

Stop

\*NS2\*

Item Name: Wiper Deflector

Start Date: 9/18/2014 Start Qty: 20.00

\*20\*

Cust Item ID:

Required Date: 10/3/2014 Req'd Qty: 20.00

\*20\*

Customer:

Reference:

Approvals:

Process Plan:

Date:

14-9-18

Tooling:

Date:

QC:

Date:

SPC (Y/N):

Date:

Run

Start

\*NR1\*

Stop

\*NR2\*

Sequence ID/  
Work Center ID

Operation  
Description

Set Up/  
Run Hours

Tool ID

Tool #

Plan  
Code

Accept  
Qty

Reject  
Qty

Reject  
Number

Insp.  
Stamp

Draw Nbr

Revision Nbr

D4857

E

100

0.00

\*100\*

Purchasing

Memo

0.00

Purchasing

Issue P/O:

Possible supplier: CARBON BY DESIGN

Manufacture as per dwg D4857-M

Prime Deflector as per dwg (SEE NOTE 4)

Certificate of Conformity release note is required.

CL 14/09/22 (20)

110

Receive & Inspect for Damage & Mat'l Certs

0.00

\*110\*

Packaging

Memo

0.00

Packaging

5x 8014-10-21

# Work Order ID 124642

\*124642\*

Page 2

Thursday, September 18, 2014 11:55:49 AM

Item ID: D4857-M Accept \*N900040100\* Setup Start \*NS1\*  
 Revision ID: Stop \*NS2\*  
 Item Name: Wiper Deflector  
 Start Date: 9/18/2014 Start Qty: 20.00 \*20\* Cust Item ID:  
 Required Date: 10/3/2014 Req'd Qty: 20.00 \*20\* Customer:  
 Reference:

Approvals: Process Plan: Date: Tooling: Date: Run Start \*NR1\*  
 QC: Date: SPC (Y/N): Date: Stop \*NR2\*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120	QC5- Inspect part completeness to step on W/O	0.00							DAS 38 9-89
*120*						5			
QC	Memo	0.00							
Quality Control									OCT 2 2 2014
130	Identify as per dwg & Stock Location: 87	0.00							
*130*						5X			DAS 28 9-89
Packaging	Memo	0.00							OCT 2 2 2014
Packaging									
140	QC21- Final Inspection - Work Order Release	0.00							
*140*									
QC	Memo	0.00							
Quality Control									14/11/13

14-11-13

# Picklist Print

Thursday, September 18, 2014 11:55:49 AM

Page 1

Work Order ID: 124642

\*124642\*

Parent Item: D4857-M

\*D4857-M\*

Parent Item Name: Wiper Deflector

Start Date: 9/18/2014

Required Date: 10/3/2014

Start Qty: 20.00

Required Qty: 20.00

Comments: IPP REV:A 14.05.21 NEW ISSUE DD VERF:JLM

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

D4857-P

Purchased

No

Each

0.0000

\*D4857-P\*

Wiper Deflector

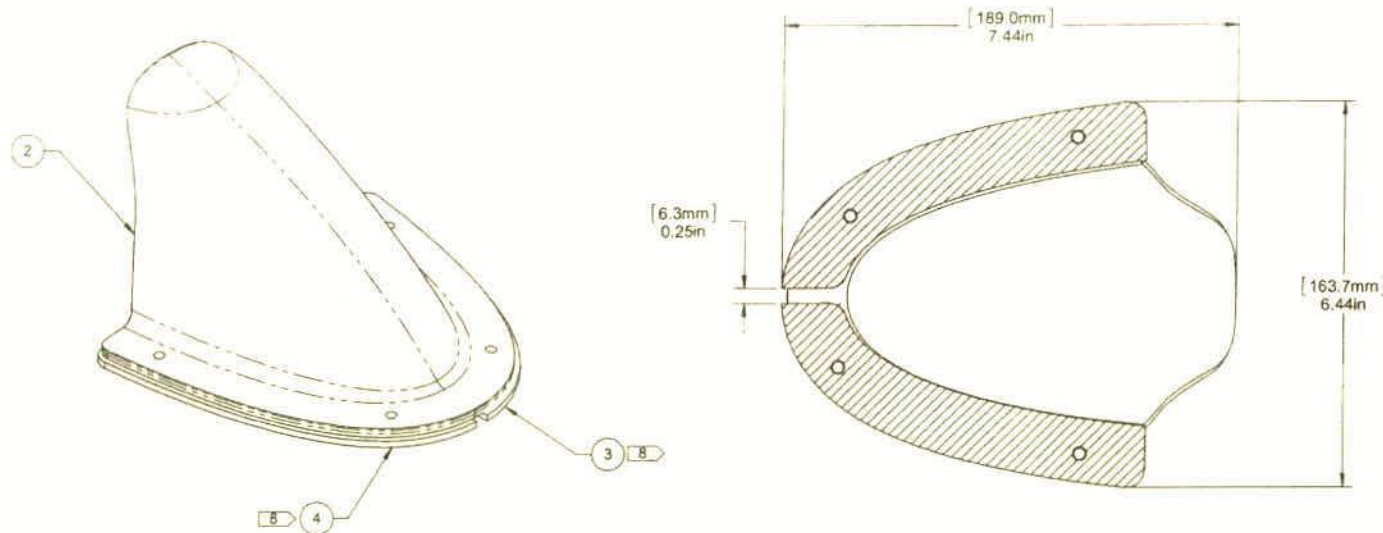
\*\*

20 5x  
5x SP14-10-21





ITEM	QTY -043	P/N	DESCRIPTION
1	X	D4857-043	WIPER DEFLECTOR ASSEMBLY, LH
2	1	D4857-3	WIPER DEFLECTOR LH
3	1	D5117-1	GASKET
4	1	D5117-3	GASKET



**D4857-043 WIPER DEFLECTOR ASSEMBLY, LH**

**RELEASED**  
2014-06-11

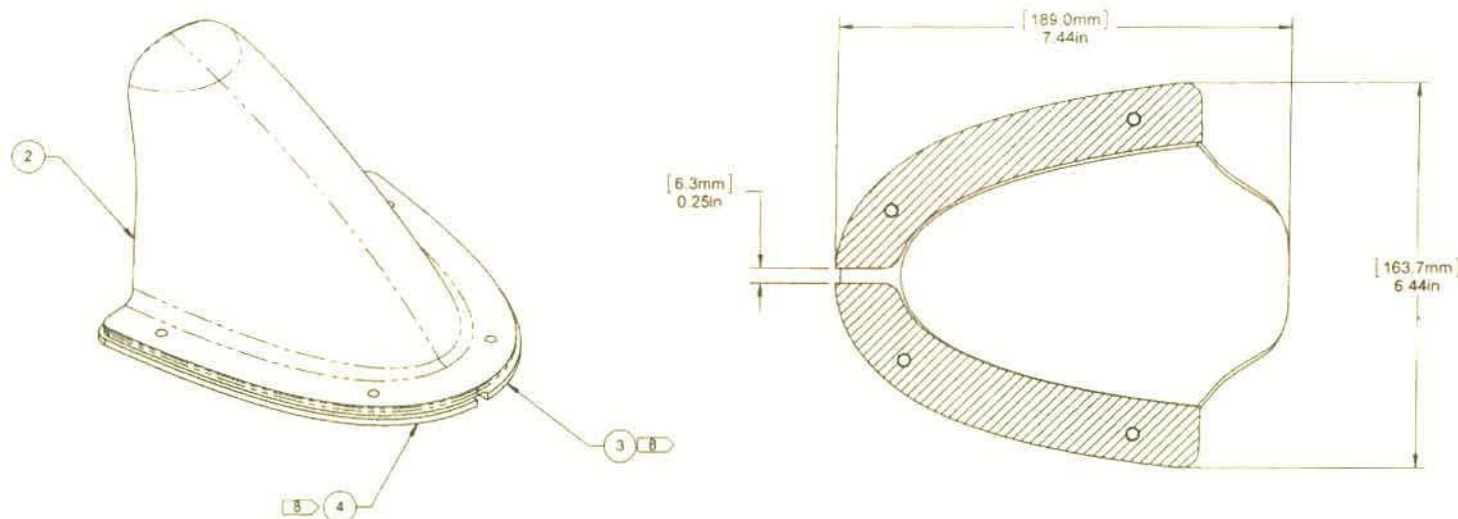
**NOTES:**

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED, ALL METRIC DIMENSIONS ARE REFERENCE DIMENSIONS.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N D4857-043, REVISION, BATCH NUMBER, AND DATE OF MANUFACTURE, AS PER QSI 044 METHOD 6.1
- 7) WEIGHT: 0.38 lbs (0.17 kg)
- 8) BOND D5117-1/-3 GASKET TO EDGE OF PART USING DOW CORNING 736 ADHESIVE

REV	DESCRIPTION	BY	DATE
E	REVISE NOTE 6) (ZN A8-1, A8-2, A8-3); AND NOTE 8) (ZN A8-1, A8-2, A8-3)	AK	14.06.05
D	ADDED D4857-043 (ZN C7-1), D4857-044 (ZN C7-2), D4857-3 (ZN C7-4), D4857-4 (ZN C7-5) AND D4857-M (ZN C7-6)	AK	14.05.13
C	ADDED 4 MOUNTING HOLES	DW	13.12.09
B	REVISED BOM, DRAWING VIEWS, NOTES	PB	13.08.13
A	NEW RELEASE	DB	13.05.23
DESIGN	DW	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	VS	DRAWING NO.	REV. E
MFG. APPR.	JFS	<b>D4857</b>	SHEET 1 OF 7
APPROVED	MP	TITLE	SCALE
DE APPR.	DS	<b>WIPER DEFLECTOR</b>	NTS
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APPROVED

ITEM	QTY	P/N	DESCRIPTION
1	X	D4857-044	WIPER DEFLECTOR ASSEMBLY, RH
2	1	D4857-4	WIPER DEFLECTOR RH
3	1	D5117-5	GASKET
4	1	D5117-7	GASKET



**D4857-044 WIPER DEFLECTOR ASSEMBLY, RH**

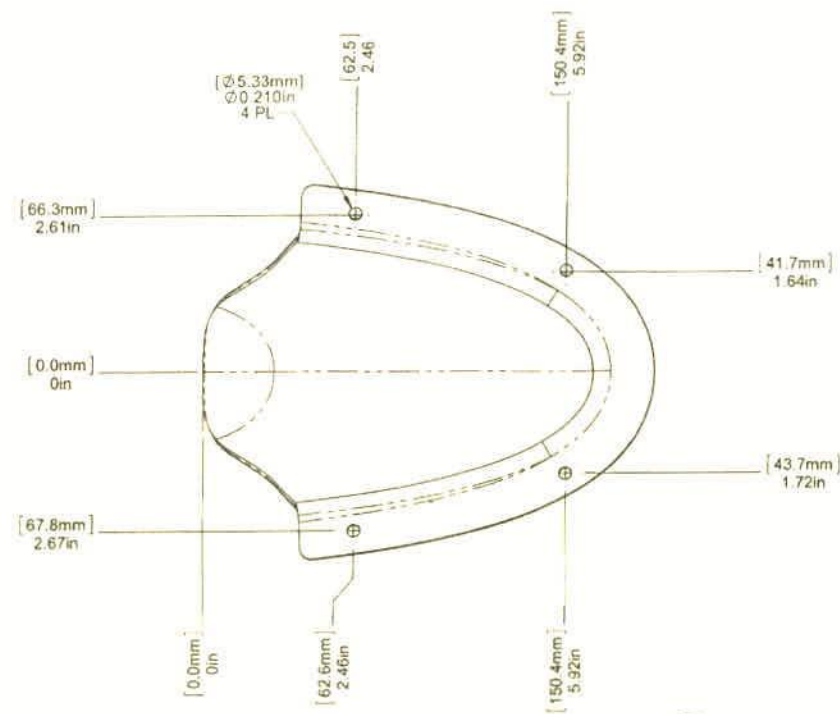
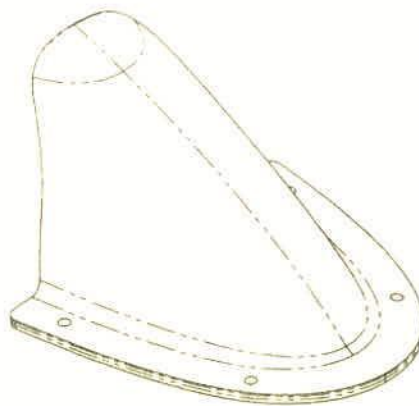
**RELEASED**  
2014-06-11

**NOTES**

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED, ALL METRIC DIMENSIONS ARE REFERENCE DIMENSIONS.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N D4857-044, REVISION, BATCH NUMBER, AND DATE OF MANUFACTURE, AS PER QSI 044 METHOD 8.1
- 7) WEIGHT: 0.38 lbs (0.17 kg)
- 8) BOND D5117-5/-7 GASKET TO EDGE OF PART USING DOW CORNING 736 ADHESIVE

APPROVED

DESIGN	DW	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	VS	DRAWING NO	REV. E
MFG. APPR.	JFS	<b>D4857</b>	SHEET 2 OF 7
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**D4857-1 WIPER DEFLECTOR**

**RELEASED**  
2014-06-11  
WFO

**NOTES:**

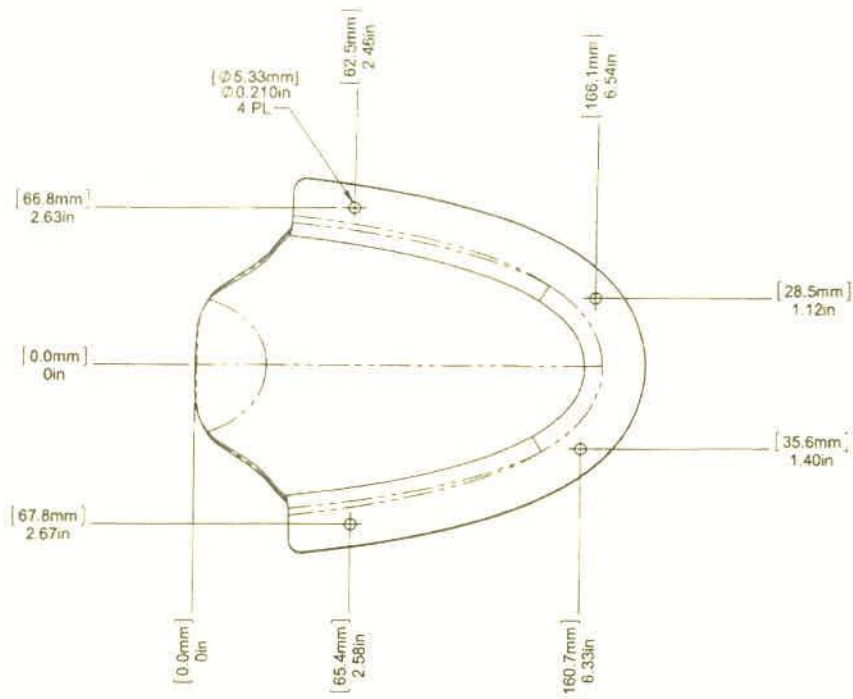
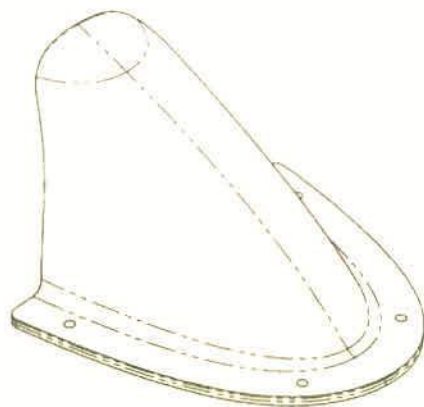
- 1) MATERIAL: MADE FROM D4857-M
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED, ALL METRIC DIMENSIONS ARE REFERENCE DIMENSIONS.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N D4857-1, REVISION, BATCH NUMBER, AND DATE OF MANUFACTURE, AS PER QSI 044 METHOD 6.1
- 7) WEIGHT: 0.24 lbs (0.11 kg)
- 8) PART DIMENSIONS CONTROLLED BY CAD MODEL FILE D4857-1-e.IGES

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DESIGN	DW	<b>DART AEROSPACE LTD</b>	
DRAWN	RF	HAWKESBURY, ONTARIO, CANADA	
CHECKED	VS	DRAWING NO.	REV. E
MFG. APPR.	JFS	<b>D4857</b>	SHEET 3 OF 7
APPROVED	MP	TITLE	SCALE
DE APPR.	DS	<b>WIPER DEFLECTOR</b>	NTS
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**D4857-3 WIPER DEFLECTOR, LH**

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2014-06-11

**NOTES:**

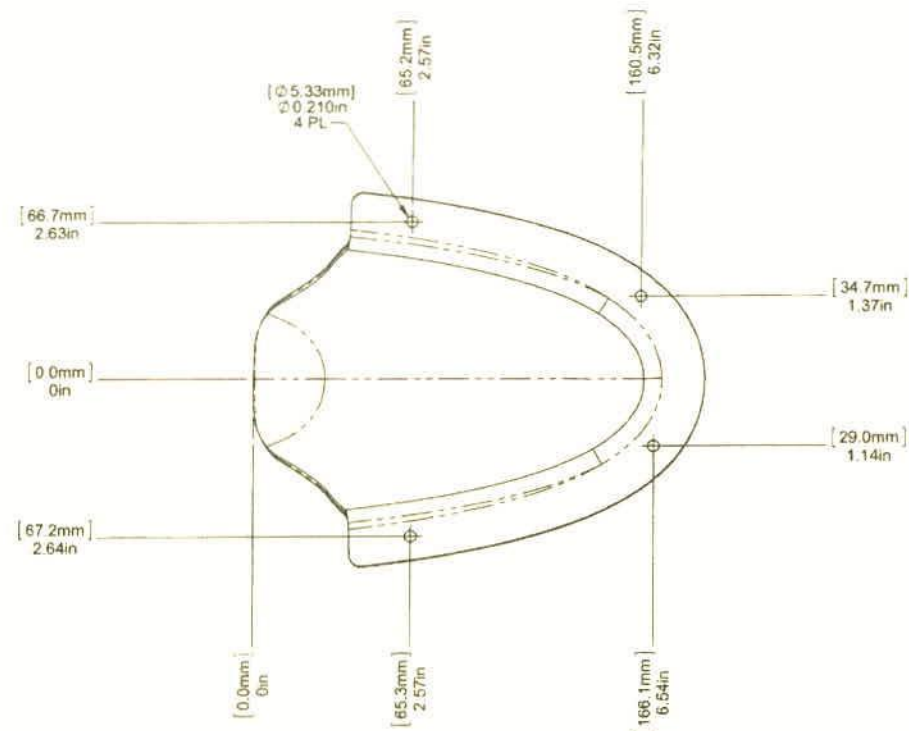
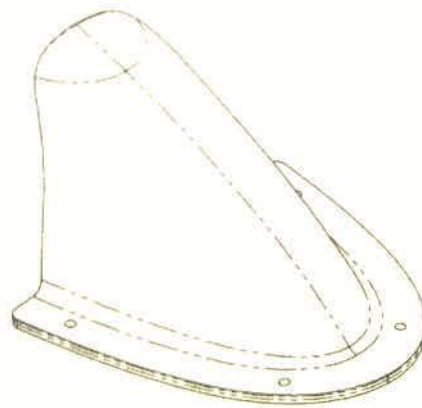
- 1) MATERIAL: MADE FROM D4857-M
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED, ALL METRIC DIMENSIONS ARE REFERENCE DIMENSIONS
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.24 lbs (0.11 kg)
- 8) PART DIMENSIONS CONTROLLED BY CAD MODEL FILE D4857-3-e.IGES

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CHECKED	VS	DRAWING NO.	REV. E
MFG. APPR.	JFS	<b>D4857</b>	SHEET 4 OF 7
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DE APPR.	DS	<b>WIPER DEFLECTOR</b>	NTS
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**D4857-4 WIPER DEFLECTOR, RH**

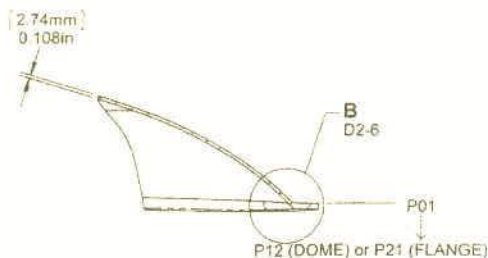
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2014-06-11  
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**NOTES:**

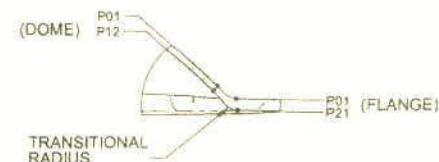
- 1) MATERIAL: MADE FROM D4857-M
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED, ALL METRIC DIMENSIONS ARE REFERENCE DIMENSIONS.
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: N/A
- 7) WEIGHT: 0.24 lbs (0.11 kg)
- 8) PART DIMENSIONS CONTROLLED BY CAD MODEL FILE D4857-4-e.IGES

APPROVED

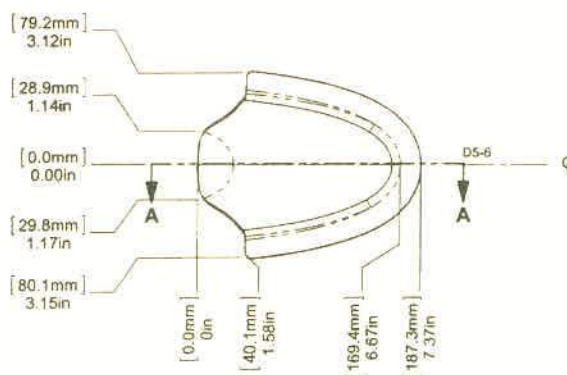
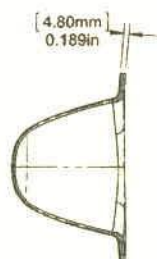
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DRAWN	RF		
CHECKED	VS	DRAWING NO.	REV. E
MFG. APPR	JFS	<b>D4857</b>	SHEET 5 OF 7
APPROVED	MP	TITLE	SCALE
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**SECTION A-A**  
B5-6



**DETAIL B**  
D5-6



**D4857-M WIPER DEFLECTOR**

**NOTES:**

- 1) MATERIAL: KEVLAR #285/353 4H SATIN, EPOXY PREPREG, 250°F CURE, 40% R/C
- 2) MATERIAL: CARBON FIBER PREPREG, ALDILA PREPREG SYSTEM 3K2X2-FR250-204/40 T300.
- 3) MATERIAL: ALDILA #120 E-GLASS AR250 WITH 48% RC;
- 4) FINISH: PRIMER IAW MIL-P-85582, 2-7 MIL MAX.
- 5) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 6) UNITS: INCHES UNLESS OTHERWISE NOTED, ALL METRIC DIMENSIONS ARE REFERENCE DIMENSIONS.
- 7) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 8) IDENTIFICATION: N/A
- 9) WEIGHT: 0.24 lbs (0.11 kg)
- 10) PART DIMENSIONS CONTROLLED BY CAD MODEL FILE D4857-M.e IGES
- 11) SEE PAGE 7 FOR LAYUP SCHEDULE. MANUFACTURE IAW MPP 145. CURE 250°F FOR 4 HOURS.

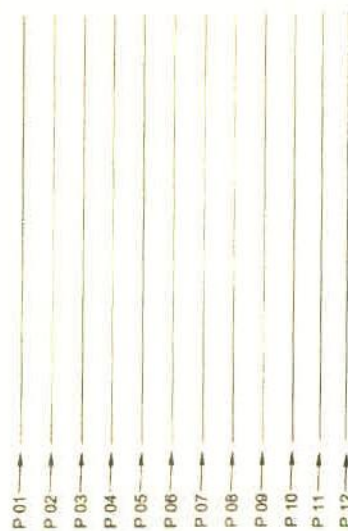
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DESIGN	DW	<b>DART AEROSPACE LTD</b> HAWKESBURY, ONTARIO, CANADA	
DRAWN	RF		
CHECKED	VS	DRAWING NO.	REV. E
MFG. APPR.	JFS	<b>D4857</b>	SHEET 8 OF 7
APPROVED	MP	TITLE	SCALE
DE APPR.	DS	<b>WIPER DEFLECTOR</b>	NTS
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2014-06-11

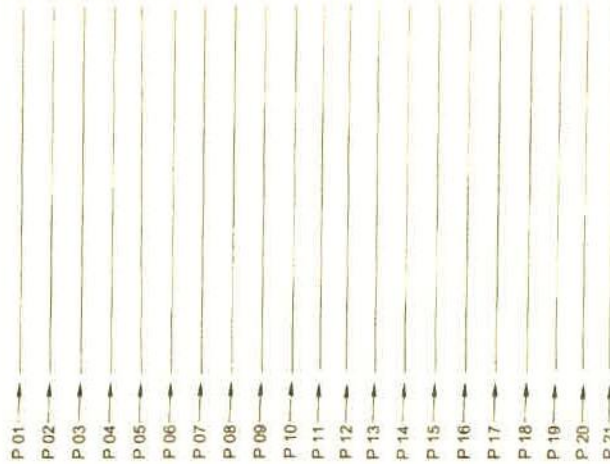






LAYUP OF LAYERS (DOME)

LAMINATE - 108in (12 LAYERS)			
PLY	WARP ANGLE	MATERIAL	THICKNESS
01	90	[1]	.008-.010
02	0	[1]	.008-.010
03	90	[2]	.008-.010
04	0	[2]	.008-.010
05	90	[2]	.008-.010
06	0	[2]	.008-.010
07	90	[2]	.008-.010
08	0	[2]	.008-.010
09	90	[2]	.008-.010
10	0	[2]	.008-.010
11	90	[2]	.008-.010
12	0	[2]	.008-.010



LAYUP OF LAYERS (FLANGE)

LAMINATE - 189in (21 LAYERS)			
PLY	WARP ANGLE	MATERIAL	THICKNESS
01	90	[1]	.008-.010
02	0	[1]	.008-.010
03	90	[2]	.008-.010
04	0	[2]	.008-.010
05	90	[2]	.008-.010
06	0	[2]	.008-.010
07	90	[2]	.008-.010
08	0	[2]	.008-.010
09	90	[2]	.008-.010
10	0	[2]	.008-.010
11	90	[2]	.008-.010
12	0	[2]	.008-.010
13	90	[2]	.008-.010
14	0	[2]	.008-.010
15	90	[2]	.008-.010
16	0	[2]	.008-.010
17	90	[2]	.008-.010
18	0	[2]	.008-.010
19	90	[2]	.008-.010
20	0	[2]	.008-.010
21	90	[3]	.005

APPROVED

DESIGN	DW	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA
DRAWN	RF	
CHECKED	VS	DRAWING NO D4857
MFG. APPR.	JFS	REV E
APPROVED	MP	SHEET 7 OF 7
DE APPR.	DS	TITLE WIPER DEFLECTOR
DATE	14.06.05	SCALE NTS

RELEASED  
2014-06-11

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Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
Tel: 613 632 9577  
Fax: 613 632 1053

## PURCHASE ORDER

Purchase Order ID PO25862

Purchase Order Date 9/22/2014

PO Print Date 9/22/2014

Page Number 1 of 2

From: VU-CBD001  
BY DESIGN  
AVENIDA DE LA PLATA  
VANSIDE, CALIFORNIA 92056

Ship To: DART AEROSPACE LTD  
1270 ABERDEEN  
HAWKESBURY, ON K6A 1K7  
CANADA

Buyer Name	Buyer	Chantal Lavoie
Buyer Phone 760-643-1300	Customer POID	
Buyer Contact	Customer Tax #	10127-2607
Buyer Phone	Terms	Net 30
Buyer Fax	Currency	USD
Buyer Email	FOB	FCA - (Free Carrier)

Reference	Description/ Mfg ID	Req Date/ Taxable	CD	Req Qty/ Unit of Measure	PO Unit Price	Extended Price
-----------	------------------------	----------------------	----	--------------------------------	---------------	-------------------

Comments	Wiper Deflector	10/10/2014	FN	20.00	\$695.00	\$13,900.00
Very Comments		Yes		Each		
		10/10/2014				

FACTURE AS PER DWG D4857 REV. E

42

recus SP14-10-14.

recus.

SP14-10-14

recus x SP14-10-21.

Line Total: \$13,900.00

25	PROCUREMENT QUALITY CLAUSES	10/10/2014		1.00	\$0.00	\$0.00
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No

Procurement Quality Clauses

10/10/2014

Procurement

Quality Clauses

Procurement

Quality Clauses

Procurement

Quality Clauses

Procurement

Quality Clauses

Attachments: Fedex Acc#151793240

Note:

9/22/2014





# carbon by design

4128 Avenida De La Plata - Oceanside, CA 92056  
Phone: 760-643-1300 Fax: 760-643-1333  
[www.carbonbydesign.com](http://www.carbonbydesign.com)

## Packaging List

Date: 10/17/2014

Packaging List No. 17326

Cage Code: 4DG17

CBD Work Order No. 8229

Customer PO No.: PO25862

### Billing Address:

Dart Aerospace Ltd.  
1270 Aberdeen Street  
Hawkesbury, ON K6A 1K7  
UPS# 664-5W1

### Please Deliver To:

Dart Aerospace LTD  
1270 Aberdeen  
Hawkesbury, ON K6A 1K7  
Canada

Customer Phone	Terms	Rep	Ship Date	Ship Via
613-632-5200	Net 30	JB	10/17/2014	UPS NEXT DAY

Item	Line #	Description	Qty	U/M
D4857-P	1	Dart Aerospace D4857-P, Wiper Deflector S/N: 17326-1/17326-5  Procurement Quality Clauses	5	ea

Thank you for your business.

Total Items: 5 SHIPPING VALUE  
\$3,475.00

### CERTIFICATE OF CONFORMANCE (SHORT FORM CUSTOMERS ONLY)

I certify that on \_\_\_\_\_, the Carbon by Design LP furnished the supplies or services called for by the Purchase Order Above via Delivery in accordance with all applicable requirements.

I further certify that the supplies or services are of the quality specified and conform in all respects with the contract requirements, including specifications, drawings, preservation, packaging, packing, marking requirements, and physical item identification, and are in the quantity shown in this or on the attached acceptance document.

Quality: \_\_\_\_\_ Date: \_\_\_\_\_

WARNING - This document and its attachments may contain technical data, export of which is restricted by the International Traffic in Arms Regulations (ITAR) or the Export Administration Act (EAA) of 1979, as amended. Disclosure to foreign persons without prior U.S. Government approval is prohibited. Violations of these export laws and regulations are subject to severe civil and criminal penalties.

**carbon by design**

10/17/2014

**CERTIFICATE OF CONFORMANCE**

PO: No.: 25862	DESC: Wiper Deflector	Insp: JR	Packing #: 17326
Customer: Dart Aerospace LTD	Drawing: D4857-P Rev E	Qty: 5	Serials: 17326-1/17326-5

**Work Requirements:**

Statement of Work:	SOW on file
Internal Process Doc.:	2206-253
Inspection Document:	2206-253
Manufacturing Process:	Pressure Intensifier
Security Requirement:	Confidential

**Approved Non-Conformances:** NO**Pending:** NO**DISPOSITION:** To Customer, Ship**SHIP METHOD:** UPS Next Day**Certification Statement:**

Carbon by Design LP certifies the items listed above conform to all of the applicable work and quality standard required in the purchase order listed above and any additional work requirements referenced.

All in process quality standards have been met according to customer requirements and Carbon by Design internal quality and finish requirements. All materials Certification are available for inspection and will remain on file at Carbon by Design for a period of no less than ten years.

**Finished Materials/Process Specifications:**

Per Drawing Requirements

**Additional Quality Clauses:**

Per PO Requirements, 100% Inspection

**Active Quality Systems:**  
ISO9001:2008**Inspector's Name:**David Rodriguez**Signature:**David Rodriguez**Title:**QC**Date:**10/17/14